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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,257	01/29/2002	Michael J. Stevenson	STEV-113	4056

7590 03/18/2005

Robert E. Strauss
80519 Dunbar Drive
Indio, CA 92201

EXAMINER	
FONTAINE, MONICA A	

ART UNIT	PAPER NUMBER
1732	

DATE MAILED: 03/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/058,257	STEVENSON ET AL.	
	Examiner	Art Unit	
	Monica A Fontaine	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This office action is responsive to the RCE filed 25 February 2005 (with entry of amendment filed 5 January 2005).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 1 is rejected under 35 USC 103(a) as being unpatentable over Cummings et al. (U.S. Patent 6,432,416), in view of Oikawa (U.S. Patent 6,150,004), further in view of Gupta (U.S. Patent 6,284,814), and in view of Lowes (U.S. Patent 3,284,395). Regarding Claim 1, Cummings et al., hereafter "Cummings," show that it is known to carry out a method to impart anti-microbial activity to the surface of a nonmetal object (Abstract; Column 3, lines 13-14) which consists essentially of applying to the surface a coating having a thickness from 0.1 to 5 mils of an anti-microbial composition (Column 5, lines 7-8) comprising from 0.5 to 5 weight percent of an anti-microbial metal selected from the group consisting of elemental and ionic silver, zinc, copper, and cadmium deposited on a solid carrier (Column 2, lines 16-18, 36-37; Column 3, lines 6-12), and from 95 to 99.5 weight percent of a polyethylene fusible solid (Column 2, lines 20-28); and heating the surface to a temperature of at 379°F for sufficient time to fuse the coating into the wall of the object (Column 3, lines 19-29; Column 5, lines 2-3).

Although Cummings teaches coating a metal surface, he does not specify coating a polyethylene surface. Oikawa et al., hereafter "Oikawa," show that it is known to coat a polyethylene surface with an antimicrobial composition (Column 15, lines 1-14). Oikawa and Cummings are combinable because they are concerned with a similar technical field, namely, molding processes which form articles having an antimicrobial coating thereon. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to coat Oikawa's polyethylene article during Cummings' molding process in order to provide microbial protection to specific polyethylene articles. Cummings does not teach using a liquid carrier for his antimicrobial composition or a specific melt index of his hydrocarbon resin. Gupta shows that it is known to coat a surface with a liquid carrier containing an antimicrobial composition to form a composition coating on said surface (Column 5, lines 1-14; Column 12, lines 26-27), and that an appropriate melt index for the hydrocarbon resin is less than 30 grams/min (Column 3, lines 66-67; Column 4, lines 1-2). Gupta and Cummings are combinable because they are concerned with a similar technical field, namely that of materials which contain similar antimicrobial compositions that are applied to other articles. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Gupta's liquid carrier in Cummings' coating process in order to avoid the possible hazardous ventilation situations that can arise in powder applications. Cummings does not teach using a liquid carrier with a specific amount of antimicrobial composition contained in the liquid carrier. Lowes shows that it is known to have a liquid carrier containing 64 weight percent of antimicrobial composition (Column 3, lines 53-55). Lowes and Cummings are combinable because they are concerned with a similar technical field, namely that of materials which contain similar antimicrobial

compositions that are applied to other articles. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Lowes' composition as that of Gupta's liquid carrier in Cummings' coating process in order to avoid the possible hazardous ventilation situations that can arise in powder applications.

Regarding Claim 2, Cummings shows the process as claimed as discussed in the rejection of Claim 1 above, including a process wherein said anti-microbial metal is silver (Column 2, lines 36-37), meeting applicant's claim.

Regarding Claim 3, Cummings shows the process as claimed as discussed in the rejection of Claim 1 above, including a process wherein said carrier solid is an ion-exchange solid and said anti-microbial metal is ion-exchanged onto said carrier solid (Column 3, lines 6-12), meeting applicant's claim.

Regarding Claim 4, Cummings shows the process as claimed as discussed in the rejection of Claims 1 and 3 above, including a process wherein said ion-exchange solid is zeolite (Column 3, lines 6-12), meeting applicant's claim.

Regarding Claim 5, Cummings shows the process as claimed as discussed in the rejection of Claims 1 and 3 above, including a process wherein said anti-microbial metal inclues zinc (Column 2, lines 36-37; Column 3, lines 6-12; It is interpreted that zinc and silver are functional equivalents.), meeting applicant's claim.

Regarding Claim 6, Cummings shows the process as claimed as discussed in the rejection of Claim 1 above, including a process wherein said polyethylene fusible solid is polyethylene (Column 2, lines 20-28), meeting applicant's claim.

Regarding Claim 7, Cummings shows the process as claimed as discussed in the rejection of Claim 1 above, including a process wherein said polyethylene fusible solid includes a hydrocarbon resin (Column 2, lines 20-28), meeting applicant's claim.

Regarding Claim 15, Cummings shows the process as claimed as discussed in the rejection of Claims 1 and 6 above, but he does not specify a certain melt index of his coating fusible solid. Gupta shows that it is known to carry out a method of imparting an antimicrobial characteristic to an article, wherein the polyethylene in the coating composition has a melt index of less that 20 grams/minute (Column 3, lines 66-67; Column 4, lines 1-2). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Gupta's polyethylene in Cummings' molding process in order to ensure that the coating possesses the desired flow properties for the specific application.

Regarding Claim 17, Cummings shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein said hydrocarbon resin is selected as said polyolefin fusible solid (Column 2, lines 20-28; It is noted that polyethylene is a hydrocarbon resin.), meeting applicant's claim.

Claims 8-14, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cummings (U.S. Patent 6,432,416) in view of Zwart (U.S. Patent 6,428,733). Regarding Claim 8, Cummings shows that it is known to carry out a method for making an antibacterial characteristic to a molded object which consists essentially of applying to a selected area a coating having a thickness from 0.1 to 5 mils (Column 5, lines 7-8) comprising from 0.5 to 5 weight percent of an anti-microbial metal selected from the group consisting of elemental and

ionic silver, zinc, copper, and cadmium deposited on a solid carrier (Column 2, lines 16-18, 36-37; Column 3, lines 6-12), and from 95 to 99.5 weight percent of a polyethylene fusible solid (Column 2, lines 20-28); and continuing the formation cycle to obtain a molded plastic product having said antimicrobial composition fused into the wall of said product (Column 3, lines 19-29; Column 5, lines 2-3). Cummings does not show a rotational molding cycle. Zwart shows that it is known to carry out a rotational molding method for fabrication of a hollow plastic form product in a rotational molding cycle (Abstract) wherein polyethylene particles are charged to a rotational mold, the mold is closed, heated to a molding temperature while being rotated about its major and minor axes for a time sufficient to form said molded product and the mold is cooled to a demolding temperature, opened and the molded product is ejected (Column 1, lines 9-15; Column 2, lines 50-53; Column 4, lines 16-22; Column 7, lines 3-13), the improved method for imparting antimicrobial activity to the exterior surface of said molded product (Column 2, line 66; Column 10, lines 20-23). Zwart also shows continuing said rotational molding cycle to obtain a molded, hollow plastic form having said antimicrobial composition fused into the wall of the object (Column 2, line 66; Column 7, lines 3-13; Column 10, lines 20-23). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Zwart's rotational molding process to form an object with Cummings' general molding concept in order to easily form hollow objects.

Regarding Claim 9, Cummings shows the process as claimed as discussed in the rejection of Claim 8 above, including a process wherein said anti-microbial metal is silver (Column 2, lines 36-37), meeting applicant's claim.

Regarding Claim 10, Cummings shows the process as claimed as discussed in the rejection of Claim 8 above, including a process wherein said carrier solid is an ion-exchange solid and said anti-microbial metal is ion-exchanged onto said carrier solid (Column 3, lines 6-12), meeting applicant's claim.

Regarding Claim 11, Cummings shows the process as claimed as discussed in the rejection of Claims 8 and 10 above, including a process wherein said ion-exchange solid is zeolite (Column 3, lines 6-12), meeting applicant's claim.

Regarding Claim 12, Cummings shows the process as claimed as discussed in the rejection of Claims 8 and 10 above, including a process wherein said anti-microbial metal inclues zinc (Column 2, lines 36-37; Column 3, lines 6-12; It is interpreted that zinc and silver are functional equivalents.), meeting applicant's claim.

Regarding Claim 13, Cummings shows the process as claimed as discussed in the rejection of Claim 8 above, including a process wherein said polyethylene fusible solid is polyethylene (Column 2, lines 20-28), meeting applicant's claim.

Regarding Claim 14, Cummings shows the process as claimed as discussed in the rejection of Claim 8 above, including a process wherein said polyethylene fusible solid includes a hydrocarbon resin (Column 2, lines 20-28), meeting applicant's claim.

Regarding Claim 16, Cummings shows the process as claimed as discussed in the rejection of Claims 8 and 13 above, but he does not specify a certain melt index of his coating fusible solid. Zwart shows that it is known to carry out a method of imparting an antimicrobial characteristic to an article, wherein the polyethylene in the coating composition has a melt index of less that 20 grams/minute (Column 6, lines 8-9; Column10, lines 20-23). It would have been

prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Zwart's polyethylene in Cummings' molding process in order to ensure that the coating possesses the desired flow properties for the specific application.

Regarding Claim 18, Cummings shows the process as claimed as discussed in the rejection of Claim 8 above, including a method wherein said hydrocarbon resin is selected as said polyolefin fusible solid (Column 2, lines 20-28; It is noted that polyethylene is a hydrocarbon resin.), meeting applicant's claim.

Claims 19 and 21 are rejected under 35 USC 103(a) as being unpatentable over Cummings, Gupta, Lowes, Oikawa, as applied to claim 1 above, further in view of Oakes et al. (U.S. Patent 4,999,386).

Regarding Claim 19, Cummings shows the process as claimed as discussed above in the rejection of claim 1 above, but he does not show using a hydrocarbon liquid carrier. Oakes shows that it is known to use a hydrocarbon solvent as a liquid carrier for an antimicrobial composition (Column 2, lines 14-37). Oakes and Cummings are combinable because they are concerned with a similar technical field, namely that of materials which contain similar antimicrobial compositions that are applied to other articles. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Oakes' hydrocarbon liquid carrier in Cummings' coating process in order to avoid the possible hazardous ventilation situations that can arise in powder applications.

Regarding Claim 21, Cummings shows the process as claimed as discussed above in the rejection of claims 1 and 19 above, but he does not show using a specific concentration of

antimicrobial agent in a liquid carrier. Oakes shows that it is known to have a liquid carrier that contains 25-35 weight percent antimicrobial agent (Column 6, lines 48-49). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Oakes' liquid carrier's antimicrobial composition in Cummings' coating process in order to achieve the desired level of microbe protection.

Claims 20 and 22 are rejected under 35 USC 103(a) as being unpatentable over Cummings, Gupta, Lowes, Oikawa, as applied to claim 1 above, further in view of Huang et al. (U.S. Patent 5,089,205).

Regarding Claim 20, Cummings shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show using a surfactant in a liquid carrier. Huang et al., hereafter "Huang," show that it is known to carry out a method of imparting antimicrobial activity wherein a liquid carrier is a water containing from 0.1 to 2 weight percent of a surfactant sufficient to form a stable dispersion of said antimicrobial composition (Column 2, lines 49-57). Huang and Cummings are combinable because they are concerned with a similar technical field, namely, methods of producing antimicrobial articles. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Huang's surfactant in Cummings' coating process in order to provide the desired amount and strength of antimicrobial properties to an article.

Regarding Claim 22, Cummings shows the process as claimed as discussed above in the rejection of claims 1 and 20 above, but he does not show using a specific concentration of antimicrobial agent in a liquid carrier. Oakes shows that it is known to have a liquid carrier that

contains 25-35 weight percent antimicrobial agent (Column 6, lines 48-49). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Oakes' liquid carrier's antimicrobial composition in Cummings' coating process in order to achieve the desired level of microbe protection.

Response to Arguments

Applicant's arguments with respect to claims 1-7, 15, and 17 have been considered but are moot in view of the new ground(s) of rejection.

With respect to claims 8-14, 16, and 18, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., a specific liquid carrier composition) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica A Fontaine whose telephone number is 571-272-1198. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Colaianni can be reached on 571-272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Maf
March 15, 2005

MICHAEL P. COLAIANNI
SUPERVISORY PATENT EXAMINER